

Fig. 1

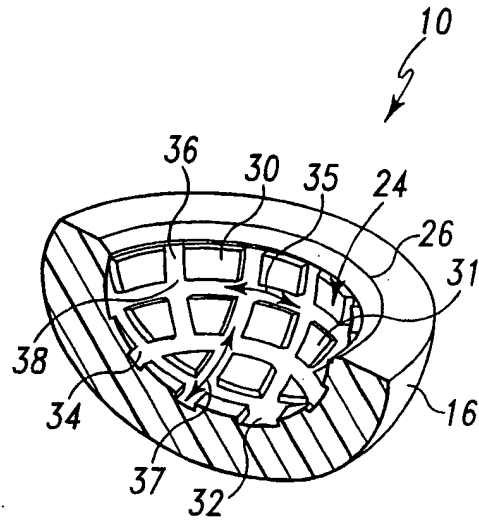


Fig. 2

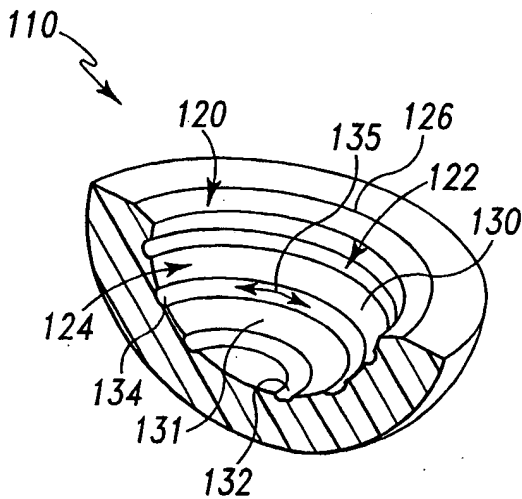


Fig. 3

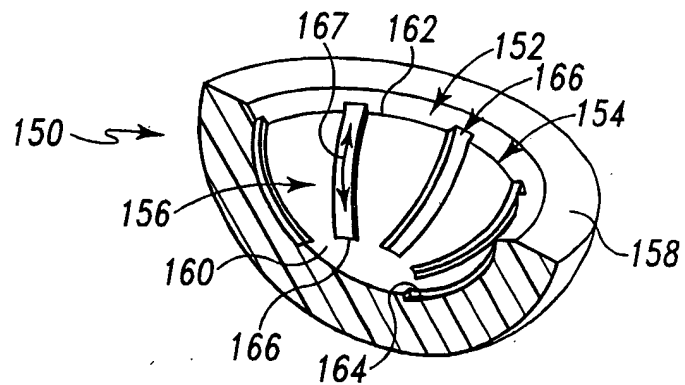


Fig. 4

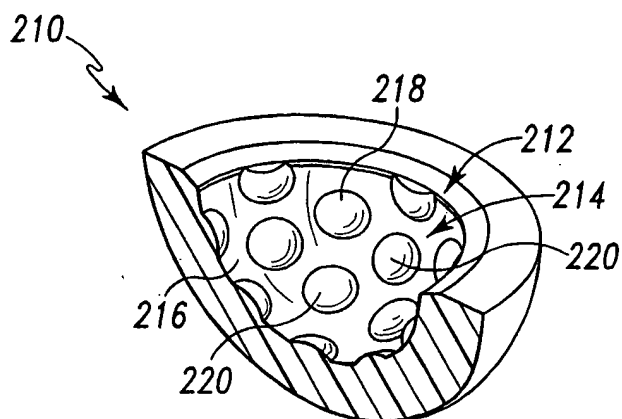


Fig. 5

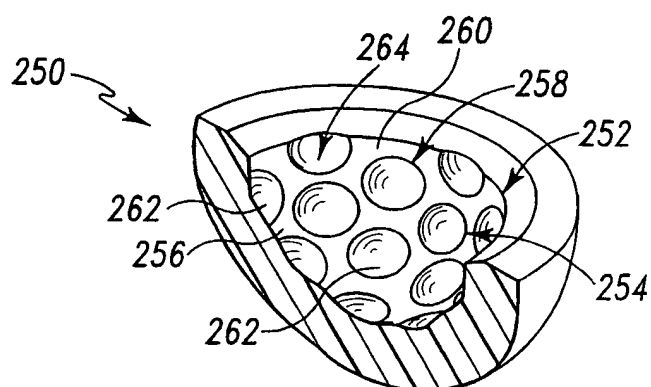


Fig. 6

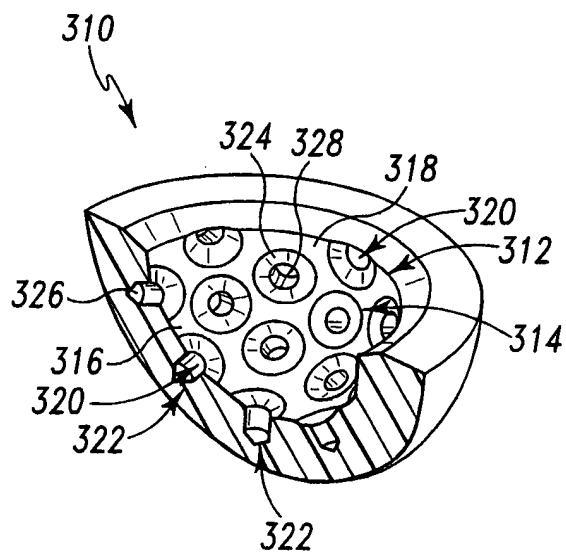


Fig. 7

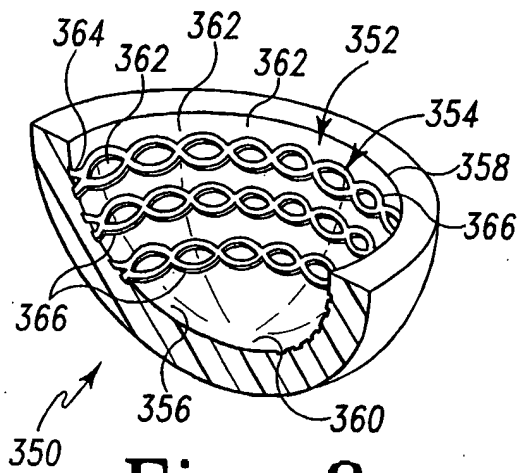


Fig. 8

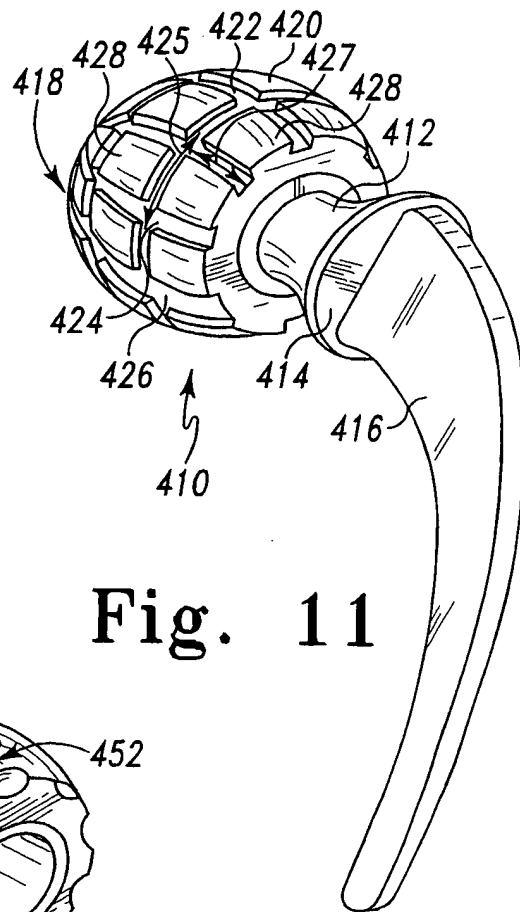


Fig. 11

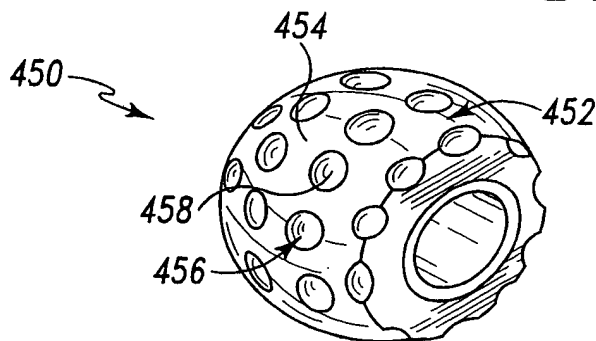


Fig. 12

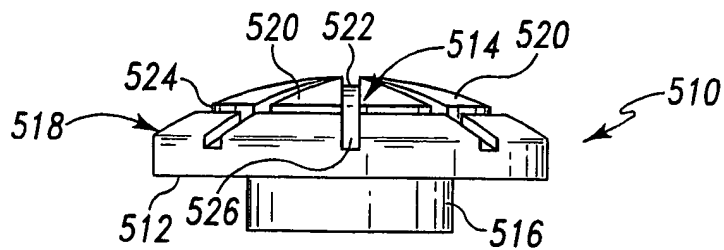


Fig. 13

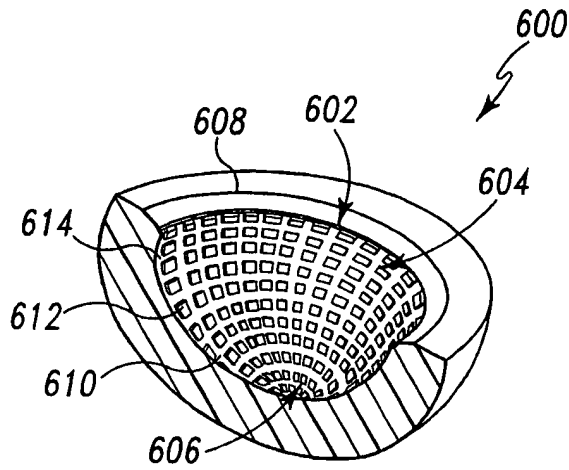


Fig. 9

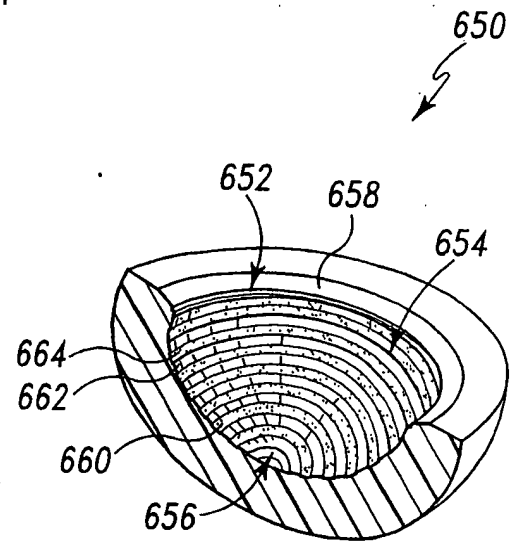


Fig. 10

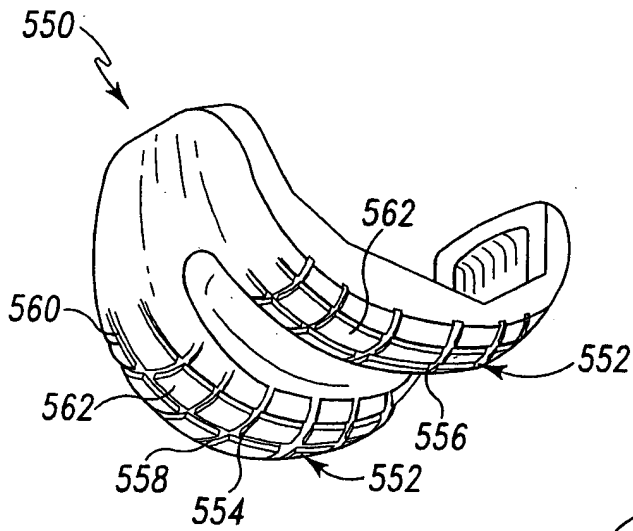


Fig. 14

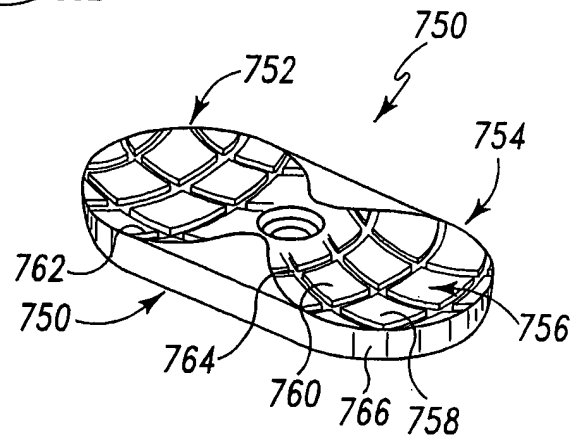


Fig. 15

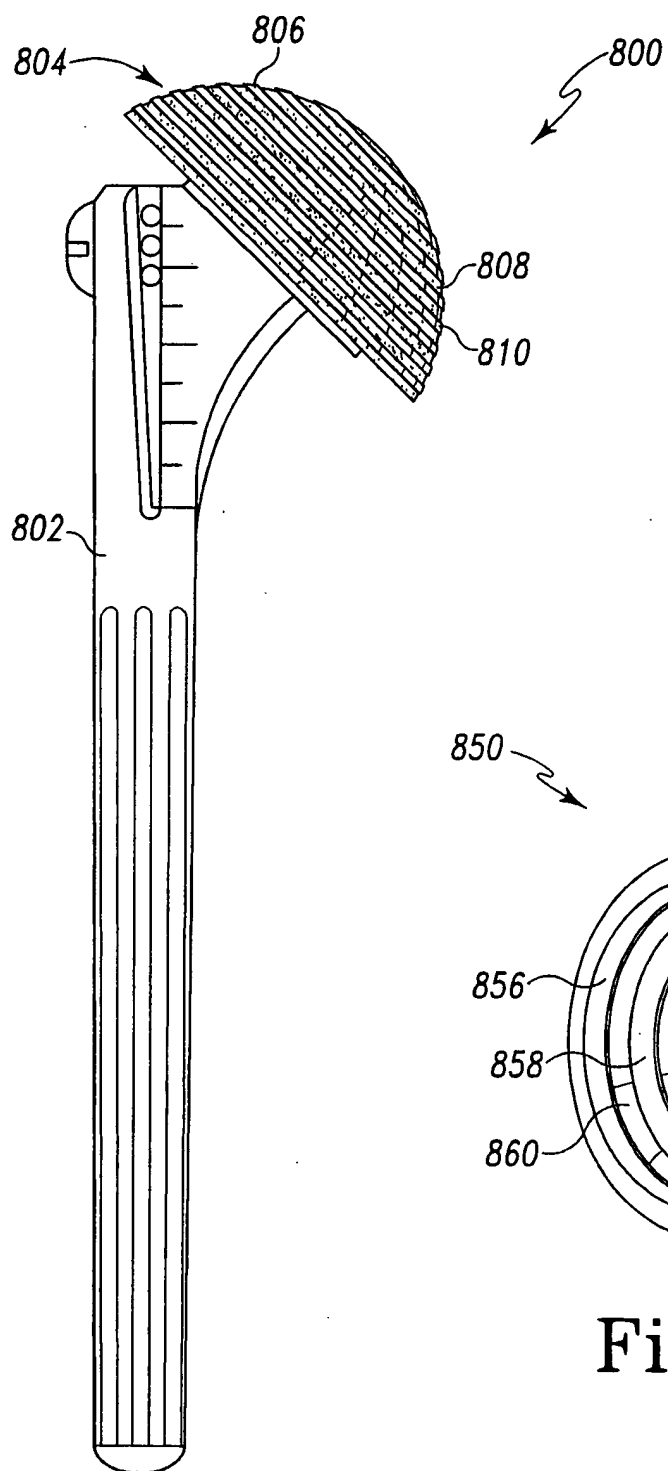


Fig. 16

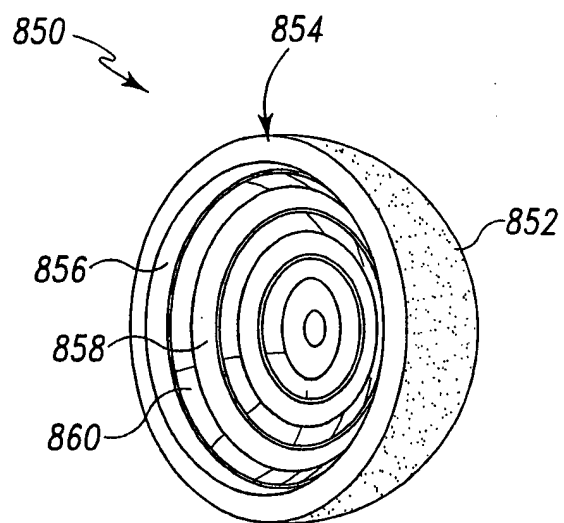


Fig. 17

COBALT CHROMIUM ON COBALT CHROMIUM

SPHERICAL (mm)	40 μm			60 μm			80 μm			100 μm			120 μm		
	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)
22	59.65	0.0	0.0	45.55			37.62			32.44			28.74		
23	63.29	5.7	0.44	48.32			39.91			34.42			30.49		
24	66.98	10.9	0.81	51.14			42.24			36.42			32.27		
25	70.72	15.7	1.13	54.00			44.60			38.45			34.07		
26	74.51	20.0	1.40	56.89			46.99			40.15			35.90		
27	78.36	23.9	1.63	59.83	0.3	0.02	49.41			42.60			37.74		
28	82.25	27.5	1.84	62.80	5.0	0.26	51.86			44.71			39.62		
29	86.18	30.8	2.01	65.80	9.4	0.47	54.34			46.85			41.51		
30	90.17	33.8	2.16	68.84	13.4	0.65	56.85			49.02			43.42		
31	94.19	36.7	2.29	71.91	17.1	0.81	59.39			51.20			45.36		
32	98.26	39.3	2.40	75.02	20.5	0.96	61.95			53.41			47.32		
33	102.38	41.7	2.50	78.16	23.7	1.08	64.55	7.6	0.29	55.65			49.30		
34	106.53	44.0	2.58	81.33	26.7	1.19	67.16	11.2	0.41	57.90			51.30		
35	110.73	46.1	2.65	84.53	29.4	1.29	69.81	14.6	0.53	60.18			53.31		
36	114.96	48.1	2.72	87.77	32.0	1.38	72.48	17.7	0.63	62.48	0.9	0.03	55.35		
37	119.24	50.0	2.77	91.03	34.5	1.46	75.17	20.6	0.72	64.80	8.0	0.24	57.41		
38	123.55	51.7	2.82	94.32	36.8	1.53	77.89	23.4	0.80	67.14	11.2	0.35	59.48		
39	127.90	53.4	2.86	97.64	38.9	1.59	80.63	26.0	0.88	69.51	14.2	0.41	61.57		
40	132.29	54.9	2.89	100.99	40.9	1.65	83.39	28.5	0.94	71.89	17.0	0.49	63.68	6.3	0.16
41	136.72	56.4	2.92	104.37	42.9	1.69	86.18	30.8	1.00	74.29	19.7	0.55	65.81	9.4	0.23
42	141.18	57.8	2.94	107.77	44.7	1.74	88.99	33.0	1.06	76.72	22.3	0.62	67.96	12.2	0.30
43	145.68	59.1	2.96	111.21	46.4	1.78	91.83	35.0	1.11	79.16	24.6	0.67	70.12	14.9	0.36
44	150.21	60.3	2.98	114.67	48.0	1.81	94.68	37.0	1.15	81.62	26.9	0.72	72.30	17.5	0.42
45	154.78	61.5	2.99	118.15	49.5	1.84	97.56	38.9	1.19	84.10	29.1	0.77	74.50	19.9	0.47
46	159.38	62.6	3.00	121.66	51.0	1.87	100.46	40.6	1.23	86.60	31.1	0.81	76.71	22.2	0.51
47	164.01	63.6	3.01	125.20	52.4	1.89	103.38	42.3	1.26	89.12	33.1	0.85	78.94	24.4	0.56
48	168.68	64.6	3.01	128.76	53.7	1.91	106.32	43.9	1.29	91.65	34.9	0.88	81.18	26.5	0.60
49	173.38	65.6	3.02	132.35	54.9	1.93	109.28	45.4	1.32	94.20	36.7	0.92	83.44	28.5	0.63
50	178.11	66.5	3.02	135.96	56.1	1.94	112.26	46.9	1.34	96.77	38.4	0.95	85.72	30.4	0.66
51	182.87	67.4	3.02	139.60	57.3	1.96	115.26	48.3	1.36	99.36	40.0	0.97	88.01	32.2	0.69
52	187.67	68.2	3.01	143.25	58.4	1.97	118.28	49.6	1.38	101.96	41.5	1.00	90.31	34.0	0.72
53	192.49	69.0	3.01	146.94	59.4	1.98	121.32	50.8	1.40	104.58	43.0	1.02	92.63	35.6	0.75
54	197.35	69.8	3.01	150.64	60.4	1.99	124.38	52.0	1.41	107.22	44.4	1.04	94.97	37.2	0.77
55	202.24	70.5	3.00	154.37	61.4	1.99	127.46	53.2	1.43	109.87	45.7	1.06	97.32	38.7	0.79
56	207.15	71.2	2.99	158.12	62.3	2.00	130.56	54.3	1.44	112.54	47.0	1.07	99.68	40.2	0.81
57	212.10	71.9	2.99	161.90	63.2	2.00	133.68	55.4	1.45	115.22	48.2	1.09	102.06	41.6	0.83
58	217.07	72.5	2.98	165.69	64.0	2.01	136.81	56.4	1.46	117.93	49.4	1.10	104.45	42.9	0.85
59	222.07	73.1	2.97	169.51	64.8	2.01	139.96	57.4	1.47	120.64	50.6	1.12	106.86	44.2	0.86
60	227.11	73.7	2.96	173.35	65.6	2.01	143.13	58.3	1.48	123.37	51.7	1.13	109.28	45.4	0.88

BASELINE CONTACT AREA
 MINIMUM % AREA OF RELIEF (COMPARED WITH UNINTERRUPTED BEARING SURFACE)
 MINIMUM % AREA OF RELIEF (COMPARED WITH TOTAL ARTICULAR SURFACE)
 MAXIMUM % AREA OF RELIEF (COMPARED WITH UNINTERRUPTED BEARING SURFACE)
 MAXIMUM % AREA OF RELIEF (COMPARED WITH TOTAL ARTICULAR SURFACE)

Fig. 18

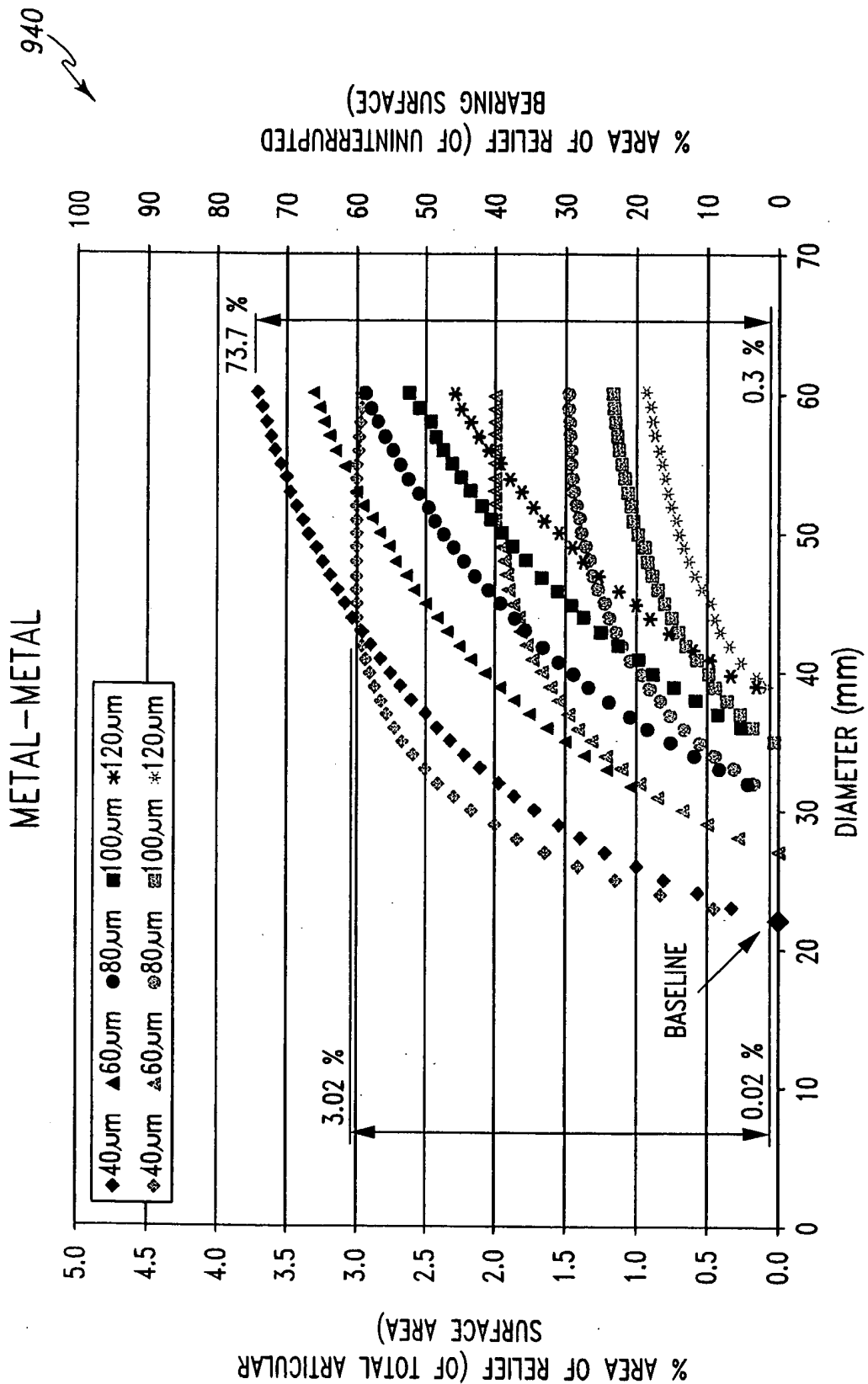


Fig. 19

CERAMIC ON CERAMIC

SPHERICAL (mm)	40 μm			60 μm			80 μm			100 μm			120 μm		
	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)
22	42.43	0.0	0.00	32.40			26.76			23.08			20.45		
23	45.02	5.7	0.31	34.38			28.39			24.48			21.69		
24	47.65	10.9	0.58	36.38			30.05			25.91			22.96		
25	50.31	15.7	0.80	38.41			31.73			27.36			24.24		
26	53.01	20.0	1.00	40.47			33.43			28.82			25.54		
27	55.74	23.9	1.16	42.56	0.3	0.01	35.15			30.31			26.85		
28	59.51	27.5	1.31	44.67	5.0	0.18	36.89			31.81			28.18		
29	61.31	30.8	1.43	46.81	9.4	0.33	38.66			33.33			29.53		
30	64.14	33.8	1.54	48.97	13.4	0.46	40.44			34.87			30.89		
31	67.01	36.7	1.63	51.16	17.1	0.58	42.25			36.42			32.27		
32	69.90	39.3	1.71	53.37	20.5	0.68	44.07			38.00			33.66		
33	72.83	41.7	1.78	55.60	23.7	0.77	45.92	3.7	0.10	39.59			35.07		
34	75.78	44.0	1.84	57.86	26.7	0.85	47.78	7.6	0.20	41.19			36.49		
35	78.77	46.1	1.89	60.13	29.4	0.92	49.66	11.2	0.29	42.81	0.9	0.02	37.93		
36	81.78	48.1	1.93	62.43	32.0	0.98	51.56	14.6	0.38	44.45	4.5	0.10	39.37		
37	84.82	50.0	1.97	64.76	34.5	1.04	53.47	17.7	0.45	46.10	8.0	0.17	40.84		
38	87.89	51.7	2.00	67.10	36.8	1.09	55.41	20.6	0.51	47.77	11.2	0.24	42.31		
39	90.99	53.4	2.03	69.46	38.9	1.13	57.36	23.4	0.57	49.45	14.2	0.29	43.80		
40	94.11	54.9	2.06	71.84	40.9	1.17	59.33	26.0	0.62	51.14	17.0	0.35	45.30	0.6	0.01
41	97.26	56.4	2.08	74.25	42.9	1.20	61.31	28.5	0.67	52.85	19.7	0.39	46.82	3.8	0.07
42	100.43	57.8	2.09	76.67	44.7	1.24	63.31	30.8	0.71	54.58	22.3	0.44	48.34	6.9	0.12
43	103.63	59.1	2.11	79.11	46.4	1.26	65.32	33.0	0.75	56.31	24.6	0.48	49.88	9.7	0.17
44	106.86	60.3	2.12	81.57	48.0	1.29	67.36	35.0	0.79	58.06	26.9	0.51	51.43	12.5	0.21
45	110.10	61.5	2.13	84.05	49.5	1.31	69.40	37.0	0.82	59.83	29.1	0.55	53.00	15.0	0.25
46	113.38	62.6	2.13	86.55	51.0	1.33	71.46	38.9	0.85	61.60	31.1	0.58	54.57	17.5	0.29
47	116.67	63.6	2.14	89.06	52.4	1.34	73.54	40.6	0.87	63.39	33.1	0.60	56.15	19.8	0.32
48	119.99	64.6	2.14	91.60	53.7	1.36	75.63	42.3	0.90	65.20	34.9	0.63	57.75	22.0	0.35
49	123.34	65.6	2.15	94.15	54.9	1.37	77.74	43.9	0.92	67.01	36.7	0.65	59.36	24.2	0.38
50	126.70	66.5	2.15	96.72	56.1	1.38	79.86	45.4	0.94	68.84	38.4	0.67	60.98	26.2	0.41
51	130.09	67.4	2.15	99.31	57.3	1.39	82.00	46.9	0.95	70.68	40.0	0.69	62.61	28.1	0.43
52	133.50	68.2	2.14	101.91	58.4	1.39	84.15	48.3	0.97	72.53	41.5	0.71	64.25	29.9	0.45
53	136.94	69.0	2.14	104.53	59.4	1.41	86.31	50.8	0.98	74.40	43.0	0.72	65.90	31.7	0.47
54	140.39	69.8	2.14	107.16	60.4	1.41	88.48	52.0	0.99	76.27	44.4	0.74	67.56	33.4	0.49
55	143.87	70.5	2.13	109.82	61.4	1.42	90.67	53.2	1.01	78.16	45.7	0.75	69.23	35.0	0.51
56	147.36	71.2	2.13	112.49	62.3	1.42	92.88	54.3	1.02	80.06	47.0	0.76	70.91	36.5	0.53
57	150.88	71.9	2.13	115.17	63.2	1.43	95.09	55.4	1.03	81.97	48.2	0.77	72.60	38.0	0.54
58	154.42	72.5	2.12	117.87	64.0	1.43	97.32	56.4	1.04	83.89	49.4	0.78	74.31	39.4	0.55
59	157.98	73.1	2.11	120.59	64.8	1.43	99.57	57.4	1.04	85.82	50.6	0.79	76.02	40.8	0.57
60	161.56	73.7	2.11	123.32	65.6	1.43	101.82	58.3	1.05	87.77	51.7	0.80	77.74	42.1	0.58

BASELINE CONTACT AREA
 MINIMUM % AREA OF RELIEF (COMPARED WITH UNINTERRUPTED BEARING SURFACE)
 MINIMUM % AREA OF RELIEF (COMPARED WITH TOTAL ARTICULAR SURFACE)
 MAXIMUM % AREA OF RELIEF (COMPARED WITH UNINTERRUPTED BEARING SURFACE)
 MAXIMUM % AREA OF RELIEF (COMPARED WITH TOTAL ARTICULAR SURFACE)

Fig. 20

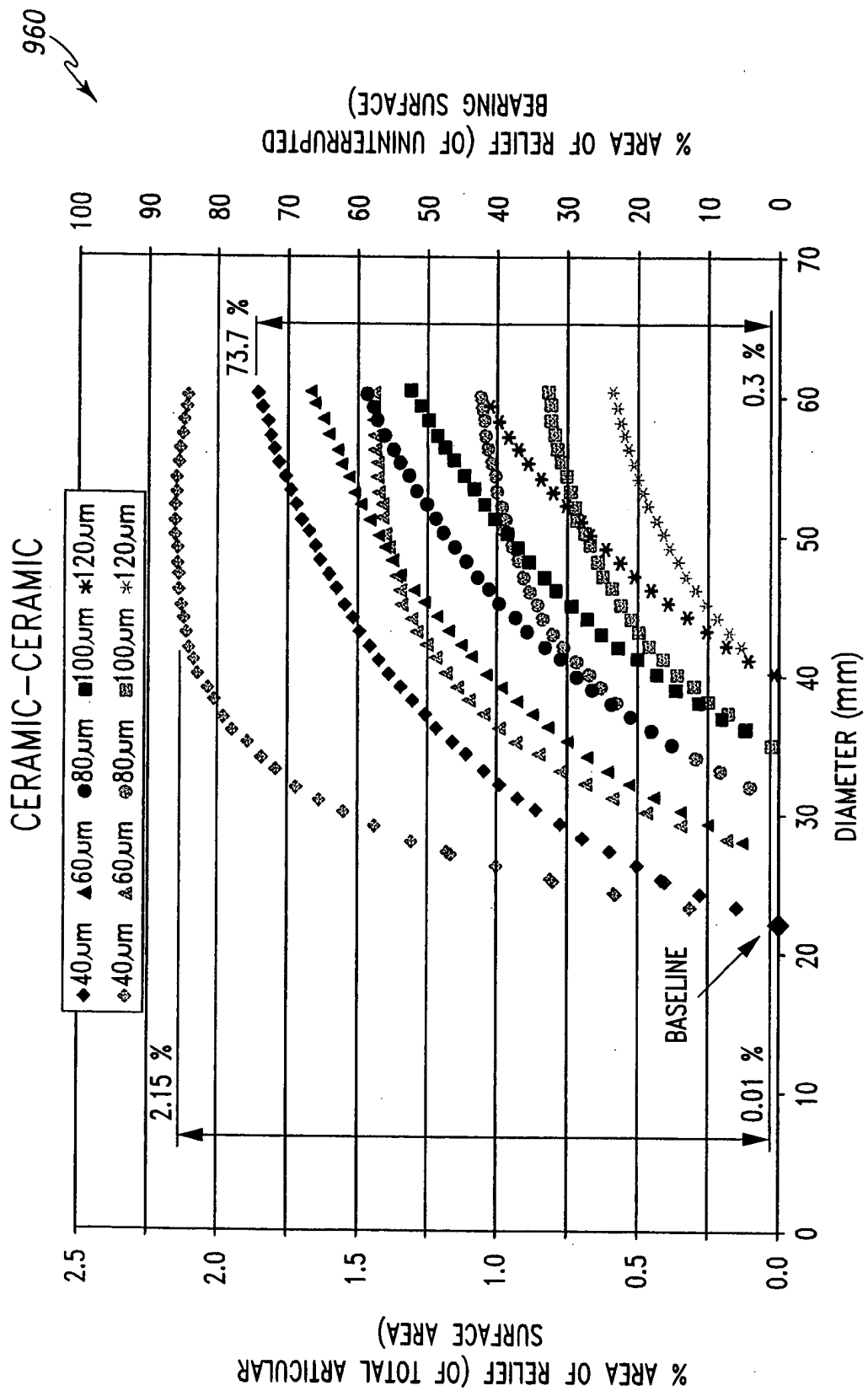


Fig. 21

COBALT CHROMIUM ON POLYETHYLENE

Φ NOMINAL (mm)	300 μ m			400 μ m			500 μ m			600 μ m		
	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)
22	504.69	36.4	24.19	417.85	23.2	12.77	361.17	11.2	5.31	320.78	0.0	0.00
23	535.29	40.1	25.82	443.14	27.6	14.73	382.97	16.2	7.49	340.10	5.7	2.33
24	566.34	43.4	27.14	468.79	31.6	16.36	405.09	20.8	9.32	359.71	10.8	4.30
25	597.83	46.3	28.22	494.80	35.2	17.73	427.52	25.0	10.87	378.58	15.5	5.98
26	629.73	49.1	29.10	521.15	38.4	18.87	450.25	28.8	12.19	399.72	19.7	7.43
27	662.04	51.5	29.80	547.84	41.4	19.83	475.26	32.2	13.32	420.11	23.6	8.67
28	694.76	53.8	30.37	574.86	44.2	20.63	498.56	35.4	14.27	440.76	27.2	9.74
29	727.86	55.9	30.82	602.20	46.7	21.30	520.14	38.3	15.09	461.55	30.5	10.66
30	761.34	57.9	31.16	629.85	49.1	21.86	543.98	41.0	15.79	482.77	33.6	11.46
31	795.19	59.7	31.43	657.82	51.2	22.33	568.09	43.5	16.38	504.14	36.4	12.15
32	829.41	61.3	31.62	686.08	53.2	22.71	592.46	45.9	16.89	525.73	39.0	12.74
33	863.99	62.9	31.76	714.63	55.1	23.03	617.08	48.0	17.32	547.54	41.4	13.26
34	898.91	64.3	31.84	743.48	56.9	23.28	641.95	50.0	17.69	569.58	43.7	13.70
35	934.18	65.7	31.88	772.60	58.5	23.48	667.06	51.9	18.00	591.83	45.8	14.09
36	969.78	66.9	31.88	802.01	60.0	23.64	692.42	53.7	18.26	614.29	47.8	14.42
37	1005.72	68.1	31.85	831.68	61.4	23.76	718.00	55.3	18.47	636.95	49.6	14.70
38	1041.97	69.2	31.80	861.63	62.8	23.85	743.82	56.9	18.65	659.83	51.4	14.95
39	1078.55	70.3	31.72	891.83	64.0	23.90	769.86	58.3	18.80	682.90	53.0	15.16
40	1115.44	71.2	31.62	922.30	65.2	23.93	796.12	59.7	18.91	706.17	54.6	15.33
41	1152.63	72.2	31.50	953.01	66.3	23.94	822.60	61.0	19.01	729.63	56.0	15.48
42	1190.13	73.0	31.38	983.98	67.4	23.94	849.30	62.2	19.07	753.28	57.4	15.61
43	1227.93	73.9	31.23	1015.19	68.4	23.91	876.21	63.4	19.12	777.12	58.7	15.71
44	1266.02	74.7	31.08	1046.65	69.4	23.87	903.33	64.5	19.16	801.14	60.0	15.80
45	1304.40	75.4	30.92	1078.34	70.3	23.82	930.65	65.5	19.17	825.34	61.1	15.86
46	1343.06	76.1	30.76	1110.27	71.1	23.75	958.17	66.5	19.18	849.72	62.2	15.91
47	1382.00	76.8	30.58	1142.42	71.9	23.68	985.90	67.5	19.17	874.28	63.3	15.95
48	1421.22	77.4	30.41	1174.81	72.7	23.60	1013.81	68.4	19.15	899.02	64.3	15.98
49	1460.71	78.0	30.23	1207.42	73.4	23.51	1041.93	69.2	19.12	923.92	65.3	15.99
50	1500.47	78.6	30.04	1240.25	74.1	23.41	1070.23	70.0	19.09	948.99	66.2	16.00
51	1540.50	79.2	29.85	1273.30	74.8	23.31	1098.72	70.8	19.04	974.23	67.1	15.99
52	1580.78	79.7	29.67	1306.57	75.4	23.21	1127.40	71.5	18.99	999.64	67.9	15.98
53	1621.33	80.2	29.48	1340.05	76.1	23.10	1156.26	72.3	18.94	1025.20	68.7	15.97
54	1662.13	80.7	29.29	1373.74	76.6	22.99	1185.50	72.9	18.87	1050.93	69.5	15.94
55	1703.18	81.2	29.09	1407.64	77.2	22.87	1214.53	73.6	18.81	1076.81	70.2	15.91
56	1744.48	81.6	28.90	1441.74	77.8	22.76	1243.92	74.2	18.74	1102.86	70.9	15.88
57	1786.03	82.0	28.71	1476.05	78.3	22.64	1273.50	74.8	18.67	1129.05	71.6	15.84
58	1827.82	82.5	28.52	1510.56	78.8	22.52	1303.74	75.4	18.59	1155.40	72.2	15.80
59	1869.85	82.8	28.33	1545.26	79.2	22.39	1333.16	75.9	18.52	1181.90	72.9	15.75
60	1912.12	83.2	28.14	1580.16	79.7	22.27	1363.25	76.5	18.44	1208.55	73.5	15.70

BASELINE CONTACT AREA

MINIMUM % AREA OF RELIEF (COMPARED WITH UNINTERRUPTED BEARING SURFACE)

MINIMUM % AREA OF RELIEF (COMPARED WITH TOTAL ARTICULAR SURFACE)

MAXIMUM % AREA OF RELIEF (COMPARED WITH UNINTERRUPTED BEARING SURFACE)

MAXIMUM % AREA OF RELIEF (COMPARED WITH TOTAL ARTICULAR SURFACE)

Fig. 22

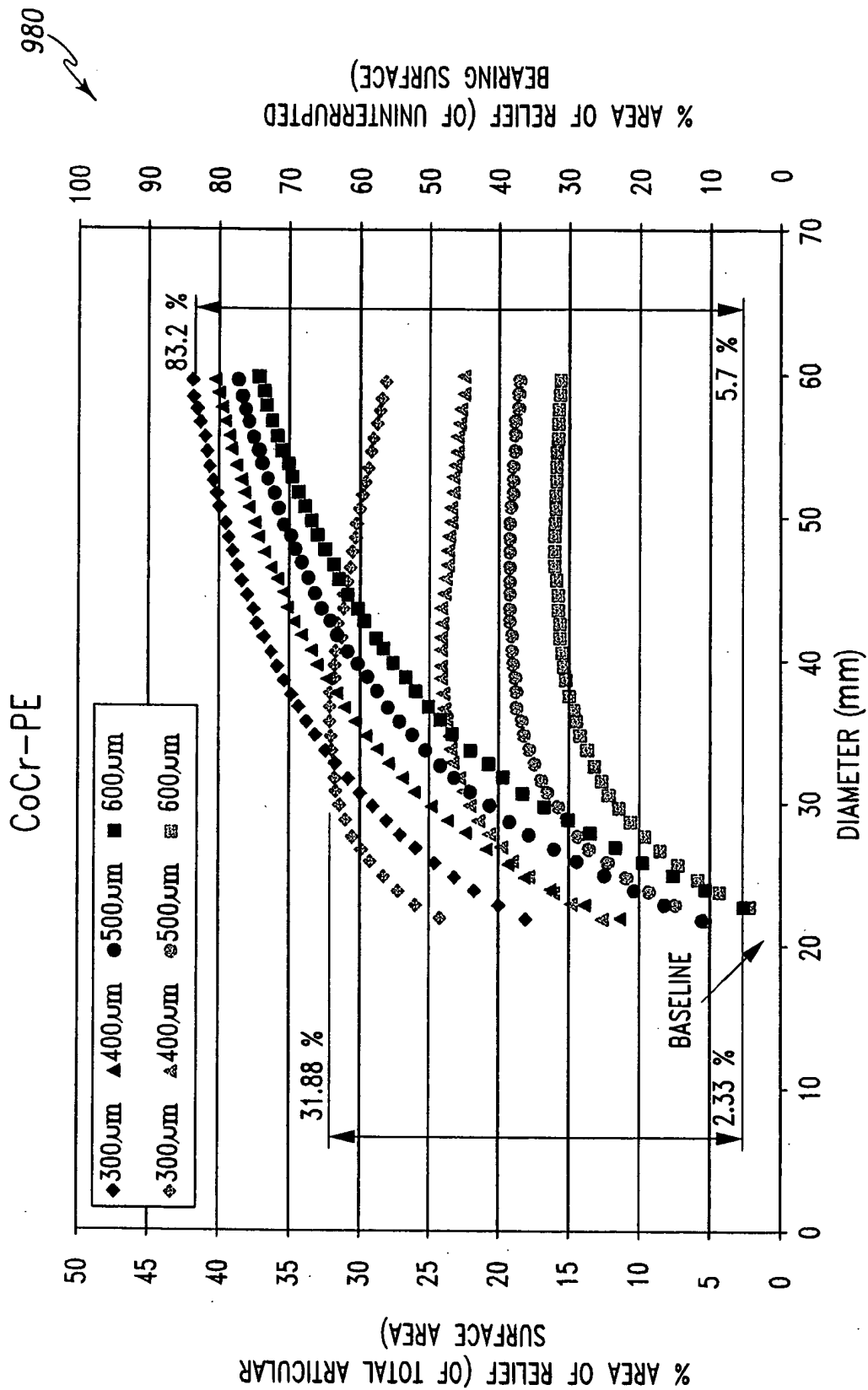


Fig. 23